

Claims

1. A mobile communications device comprising:
a wireless transceiver comprising means for receiving at
5 least one of timing information and location information from
a cellular communications network, and
a second wireless transceiver comprising means for
transmitting said at least one of the said timing information
and location information to an adjacent GPS device.
- 10 2. A GPS device comprising:
a GPS receiver comprising means for receiving a GPS
signal;
a wireless transceiver comprising means for receiving
from an adjacent device at least one of timing information and
15 location information; and
a GPS positional estimator for providing a positional
estimate dependent on said received GPS signal and at least
one of the said timing information and location information.
- 20 3. A GPS device as claimed in claim 2, in combination with
said adjacent device, the adjacent device being a mobile
communications device, the mobile communications device
comprising a wireless transceiver comprising means for
receiving at least one of the said timing information and
25 location information from a cellular communications network.
4. A combination as claimed in claim 3, wherein the mobile
communications device further comprises a second wireless
communications transceiver comprising means for transmitting
30 said at least one of the said timing information and location
information to an adjacent GPS device.
5. A combination of the mobile communications device as
claimed in claim 1 and a GPS device, wherein the GPS device

comprises a GPS communications receiver for receiving a GPS signal.

6. A combination as claimed in claim 5, wherein the GPS
5 device further comprises a wireless transceiver for receiving the at least one of the said timing information and location information from the adjacent mobile communications device.

7. A combination as claimed in claim 6, wherein the GPS
10 device further comprises a GPS positional estimator for providing a positional estimate dependent on the received GPS signal and at least one of the said timing information and location information.

8. A combination as claimed in claims 3 to 7 wherein the GPS
15 device wireless transceiver further comprises means for directly transmitting said positional estimate to the mobile communications device.

9. A combination as claimed in claim 8 when appended to
20 claims 1 or 4 to 7 wherein the mobile communications device further comprises:

the second wireless transceiver comprising means for receiving the said positional estimate.

25

10. A combination as claimed in claim 9, wherein the mobile device further comprises a display for displaying said received positional estimate to the user.

11. A combination as claimed in claims 9, wherein said mobile
30 communications device wireless transceiver is arranged to transmit the received positional estimates over said cellular communications network.

12. A combination as claimed in claims 3 to 11, wherein said communications device is arranged to provide a position estimate based on the at least one of the said timing
5 information and said location information.

13. A combination as claimed in claims 3 to 12, further comprising a memory, wherein said positional estimates are stored in said memory.

10

14. A combination as claimed in claim 13 when appended to claims 3 to 7, wherein said mobile communications device wireless transceiver is arranged to transmit at least one of the positional estimates stored in said memory over said
15 cellular communications network.

20

15. A combination as claimed in claims 4 or 6, wherein the GPS wireless transceiver and the mobile communications device second wireless transceiver are arranged to communicate between each other over an enhanced synchronised connection orientated (eSCO) communication channel.

25

16. A combination as claimed in claims 4 and 6, wherein the GPS wireless transceiver and the mobile communications device second wireless transceiver are arranged to communicate between each other over a synchronised short range wireless communication channel.

30

17. A combination as claimed in claims 4 and 6, wherein the GPS wireless transceiver and the mobile communications device second wireless transceiver are arranged to communicate between each other over a fixed delay short range wireless communication channel.

18. A combination as claimed in claims 16 and 17, wherein the communication channel is a Bluetooth communications channel.

19. A combination as claimed in claims 4 and 6, wherein the mobile communications device second wireless transceiver and the GPS wireless transceiver is at least one of:

- a Bluetooth transceiver;
- a IrDA transceiver;
- a IEE 802.11 transceiver.

10

20. A combination as claimed in claim 4 and 6, wherein the at least the said timing information and location information comprises at least one of:

- a base transceiver station timing signal;
- a base transceiver station positional estimate.

15

21. A combination as claimed in claims 3 to 30, wherein the GPS device further comprises a connector and the mobile communications device further comprises a connector, wherein the GPS device connector is physically connected to the mobile device connector.

22. A mobile communications device of claim 1 or a combination as claimed in claims 3 to 22 wherein the mobile communications device wireless transceiver is at least one of:

- a GSM transceiver;
- a WCDMA transceiver;
- a UMTS transceiver;
- a CDMA2000 transceiver.

30

23. A GPS device as claimed in claim 2 or a combination as claimed in claims 3 to 21 further comprising an indicator, said indicator comprising at least one of:

at least one LED;

5 a buzzer.

24. A GPS device as claimed in claim 2 or a combination as claimed in claims 3 to 21, further comprising a switch arranged to switch said GPS device on and off.

10

25. A GPS device as claimed in claim 2 or a combination as claimed in claims 3 to 21, further comprising a battery arranged to provide a power source for said GPS device.

15 26. A method of providing a GPS estimate comprising the steps of:

receiving a GPS signal on a GPS device;

receiving at least one of timing information and location information from a cellular communications network on an
20 mobile communications device, the mobile communications device being located at substantially the same location as the GPS device;

producing a further signal dependent on the said timing information and location information signal;

25 transmitting the further signal over a wireless communications link to the GPS device;

determining a positional estimate dependent on the received GPS signal and the third signal on the GPS device

30 27. A method as claimed in claim 24 further comprising the step of transmitting said determined positional estimate over the wireless communications link to the mobile communications device.

28. A method as claimed in claim 27 further comprising the steps of:

receiving the positional estimate on the mobile communications device via said wireless communications link;

5 displaying the received positional estimate on the mobile communications device.

29. A method as claimed in claim 27 or 28, further comprising the steps of;

10 storing the received positional estimate in a memory;

transmitting the stored positional estimate over the cellular communications network.